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PP#6F1799 Chlorothalonil on soybeans.
Amendment of 11/19/76

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THRU: Chief, Chemistry Branch

This amendment is in response to our memo of 11/17/76 (W.S.Cox) citing certain deficiencies in this petition which required resolution before a favorable recommendation could be made by CHM. We address these deficiencies and the petitioner's response to them in the order in which they appeared in our memo cited above.

Deficiency 1:

We are unable to make any conclusions as to the adequacy of the proposed tolerance. This situation derives from the fact that the analytical procedure used for the residue data involved a dry grinding of the soybeans prior to extraction which could have resulted in losses of chlorothalonil via volatility due to the heat generated during the grinding. A favorable recommendation is contingent upon submission of either residue data generated by a procedure which does not involve the dry grinding of the beans prior to extraction, or data demonstrating that the dry grinding of soybeans bearing surface residues does not result in significant losses of chlorothalonil.

Response 1:

The petitioner has performed two experiments which demonstrate that dry grinding of soybeans bearing surface residues of chlorothalonil prior to extraction does not result in significant losses of the pesticide.

The first experiment involved addition of a standard benzene solution of ^{14}C -labeled chlorothalonil into a stainless steel Waring blender, the benzene was evaporated and whole soybeans were added. The soybeans were dry-ground for one minute at maximum speed, extracted, and the recovery of chlorothalonil from the grinding procedure was determined using scintillation counting. Recoveries averaged 104% (n=3).

The second experiment reflected surface treatment of soybeans with chlorothalonil followed either by dry-grinding prior to extraction, or by direct extraction. The samples were then cleaned-up and analyzed via glc using an electron capture detector. Recoveries from surface

extraction ranged from 0.46 to 0.68 ppm with a mean recovery of 0.545 ppm (n=4). Recoveries from soybeans dry-ground prior to extraction ranged from 0.43 to 0.53 ppm with a mean recovery of 0.488 ppm.

We conclude that heat generated in the dry-grinding of soybeans prior to extraction does not result in a loss of chlorothalonil in the procedure.

It is our judgment that the residue data submitted in conjunction with this petition utilizing soybeans dry-ground prior to extraction adequately reflected actual residue levels of chlorothalonil on this r.a.c. We consider this deficiency resolved and the proposed 0.2 ppm tolerance adequate.

Deficiency 2:

There are no data reflecting the fate of chlorothalonil during the processing of treated soybeans into soybean oil, meal and soapstock. A favorable recommendation from CHM will require submission of either data reflecting the processing of the field-treated soybeans into soybean meal, oil and soapstock, or data which clearly demonstrate that residues of chlorothalonil are not present (<0.01 ppm) at the time the beans enter the processing step which involves the extraction of the oil from the crushed beans.

Response to 2:

The petition^{er} states that while one of the 1975 studies carried out in Painesville, Ohio and reflecting 2 applications of 1.875 lb. active ingredient/acre (1X) showed residues of chlorothalonil of 0.07 ppm, these samples were taken directly from the combine without complete removal of the vine and pod trash. Subsequent reanalysis of these samples after complete removal of the trash showed no detectable residues (<0.01 ppm) on the soybeans and a mean chlorothalonil residue of 2.13 ppm (n=4) on the thrashing trash.

In light of this information and since the fact that the detectable residues were found in only 4 (including the Painesville, Ohio study discussed above) of the 14 studies submitted in the petition, we find it reasonable to conclude that the low levels of residues found in these four studies probably resulted from the sampling procedures utilized in these studies (trash collected along with the soybeans and analyzed as such) and not from actual residues of chlorothalonil on the soybeans per se. Therefore, no additional data on soybean meal, oil, or soapstock and no meat, milk, poultry and egg tolerance proposals are needed.

We consider this deficiency resolved.

Deficiency 3:

Until the deficiencies mentioned above are resolved, we can make no decisions with respect to Section 180.6(a). There are restrictions which preclude the feed uses of soybean forage and vine hay.

In light of our conclusions above regarding the resolution of deficiencies in the residue data, we can now class this use in category 3 of Section 180.6(a) with respect to meat, milk, poultry and eggs.

Recommendation

TOX and EEE branch considerations permitting, we recommend that the proposed 0.2 ppm tolerance for the combined residues of chlorothalonil and its 4-hydroxy metabolite on soybeans be established.

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